



1655

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tullis et al.
Serial No.: 09/917,138
Filed: July 26, 2001

For: **ENZYMATIC LABELING AND
DETECTION OF DNA
HYBRIDIZATION PROBES**

Confirmation No.: 4876
Art Unit: 1655
Examiner: Unassigned

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MAY 23 2002

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Dear Sir:

Transmitted herewith are a Information Disclosure Statement and PTO-Forms 1449 (4 pages) for filing in connection with the above-identified application. Because this Information Disclosure Statement is filed prior to receipt of a first Office Action on the merits in the above-referenced application, no fee is due. However, should it be determined that a fee for filing these papers is required, the Commissioner is authorized to charge Deposit Account Number 50-1213, as stated below:

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Respectfully submitted,
HELLER, EHRMAN, WHITE & McAULIFFE LLP

By:

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INFORMATION DISCLOSURE STATEMENT IN ACCORDANCE
WITH 37 C.F.R. §§ 1.97-1.98

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In accordance with the duty of disclosure imposed by 37 C.F.R. § 1.56 to inform the Patent Office of all references known by Applicant or Applicant's representative that may be material to the examination of the subject application, Applicant's representative hereby provides this Information Disclosure Statement that is prepared in accordance with 37 C.F.R. §§ 1.97-1.98. The Forms PTO-1449 are provided herewith for filing in connection with the above-cited application. The references cited in the Forms PTO-1499 were submitted in an Information Disclosure Statement for the parent application, Serial No. 09/580,358, filed on May 25, 2000, which is relied upon for an earlier filing date in accordance with 35 U.S.C. § 120.

The documents listed on the Forms PTO-1449 are in the English language. Hence, in accordance with the requirements of 37 C.F.R. § 1.98, as amended effective March 16, 1992, no further explanation of the listed items is necessary.

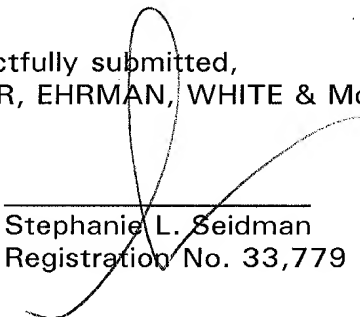
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TULLIS *et al.*
INFORMATION DISCLOSURE STATEMENT

Although these documents are made known to the Patent and Trademark Office in compliance with Applicant's duty of disclosure, such disclosure is not to be construed as an admission by Applicant or Applicant's representative that any of the references, singly or in any combination thereof, is effective as prior art against the subject application. In accordance with 37 C.F.R. §1.97(h), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(b) exists.

Applicant respectfully requests that the Examiner review the foregoing references and make them of record in the file history of the above-captioned application.

Respectfully submitted,
HELLER, EHRMAN, WHITE & McAULIFFE LLP

By:


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U.S. PATENT DOCUMENTS

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EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	4	3	5	8	5	3	5	11/09/82	Falkow <i>et al.</i>	435	5	12/08/80
	AB	4	4	0	1	7	5	9	08/30/83	Rubin <i>et al.</i>	435	91	04/08/82
	AC	4	6	8	3	1	9	5	07/28/87	Mullis <i>et al.</i>	435	6	02/07/86
	AD	4	6	8	3	2	0	2	07/28/87	Mullis	435	91	10/25/85
	AE	4	7	7	5	6	1	9	10/04/88	Urdea	435	6	10/16/84
	AF	4	7	8	6	6	0	0	11/22/88	Kramer <i>et al.</i>	435	235	05/25/84
	AG	4	8	0	0	1	5	9	01/24/89	Mullis <i>et al.</i>	435	172.3	12/17/86
	AH	4	9	0	4	5	8	2	02/27/90	Tullis	435	6	06/11/87
	AI	4	9	5	7	8	5	8	09/18/90	Chu <i>et al.</i>	435	6	04/16/86
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	AK	5	1	2	4	2	4	6	06/23/92	Urdea <i>et al.</i>	435	6	04/18/89
	AL	5	1	3	0	2	3	8	07/14/92	Malek <i>et al.</i>	435	91	08/23/89
	AM	5	2	1	5	8	9	9	06/01/93	Dattagupta	435	6	08/23/90
	AN	5	3	5	6	7	7	4	10/18/94	Axelrod <i>et al.</i>	435	6	07/02/92
	AO	5	3	9	9	4	9	1	03/21/95	Kacian <i>et al.</i>	435	91.21	03/19/92
	AP	5	4	0	9	8	1	8	04/25/95	Davey <i>et al.</i>	435	91.21	06/24/88
	AQ	5	4	1	1	8	7	5	05/02/95	Jones	435	91.2	11/01/91
	AR	5	4	2	2	2	5	3	06/06/95	Dahlberg <i>et al.</i>	435	91.53	12/07/92
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	AV	5	5	0	3	9	7	9	04/02/96	Kramer <i>et al.</i>	435	6	08/26/94
	AW	5	5	9	7	6	9	4	01/28/97	Munroe <i>et al.</i>	435	6	10/07/93
	AX	5	6	2	9	1	5	4	05/13/97	Kim <i>et al.</i>	435	6	09/28/94
	AY	5	6	4	5	9	8	6	07/08/97	West <i>et al.</i>	435	6	11/12/93

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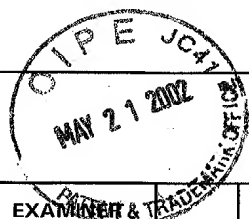
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	AZ	5	6	4	8	2	1	5	07/15/97	West <i>et al.</i>	435	6	09/28/94
	BA	5	6	6	0	9	9	8	08/26/97	Naumann <i>et al.</i>	435	34	
	BB	5	7	1	4	3	2	0	02/03/98	Kool	435	6	02/23/95
	BC	5	7	3	1	1	4	6	03/24/98	Duck <i>et al.</i>	435	6	06/06/95
	BD	5	7	5	9	7	3	3	06/02/98	Tsubuko <i>et al.</i>	430	115	01/13/92
	BE	5	8	3	7	4	5	0	11/17/98	Dahlberg <i>et al.</i>	435	6	06/06/95
	BF	5	9	1	9	6	1	9	07/06/99	Tullis	435	6	05/31/95

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUB CLASS	Translation	
	BG	0	0	2	2	1	6	0	04/20/00	PCT				
	BH	9	9	4	6	3	6	7	09/16/99	PCT				

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

BI	Bollum <i>et al.</i> , Nucleotide Polymerizing Enzymes from Calf Thymus Gland, <u>Methods of Enzymology</u> pp. 70-81 (1974).
BJ	Brandsma <i>et al.</i> , Nucleic acid spot hybridization: Rapid quantitative screening of lymphoid cell lines for Epstein-Barr viral DNA, <u>Proc. Natl. Acad. Sci. USA</u> 77(11):6851-6855 (1980).
BK	Britten <i>et al.</i> , Analysis of Repeating DNA Sequences by Reassociation, <u>Methods of Enzymology</u> pp. 363-418 (1974).
BL	Caruthers <i>et al.</i> , New chemical methods for synthesizing polynucleotides, <u>Nucleic Acids Research Symposium Series(7)</u> :215-223 (1980).
BM	Caruthers <i>et al.</i> , Chemical Synthesis of Deoxyoligonucleotides by the Phosphoramidite Method, <u>Methods in Enzymology</u> 154:287-313 (1987).

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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

BN	Caruthers <i>et al.</i> , Chemical Synthesis and Biological Studies on Mutated Gene-control Regions, _____ pp.411-418 ().
BO	Caruthers <i>et al.</i> , Deoxyoligonucleotide Synthesis via the Phosphoramidite Method, <u>Gene Amplif. Anal.</u> pp. 1-26 (1983).
BP	Castro <i>et al.</i> , Single-Molecule Detection of Specific Nucleic Acid Sequences in Unamplified Genomic DNA, <u>Anal. Chem.</u> 69:3915-3920 (1997).
BQ	Deng <i>et al.</i> , Terminal Transferase: Use in the Tailing of DNA and for <i>in Vitro</i> Mutagenesis, <u>Methods in Enzymology</u> pp. 96-116 (1983).
BR	Dirks <i>et al.</i> , Simultaneous Detection of Different mRNA Sequences Coding for Neuropeptide Hormones by Double In Situ Hybridization Using FITC- and Biotin-labeled Oligonucleotides, <u>Journal of Histochemistry and Cytochemistry</u> 38(4):467-473 (1990).
BS	Doty, The Relation of the Interaction of Polynucleotides to the Secondary Structure of Nucleic Acids, <u>Biochem. Soc. Symposia</u> 21:8-28 (1962).
BT	Gress <i>et al.</i> , Hybridization fingerprinting of high-density cDNA-library arrays with cDNA pools derived from whole tissues, <u>Mammalian Genome</u> 3:609-619 (1992).
BU	Hinton <i>et al.</i> , The preparative synthesis of oligodeoxyribonucleotides using RNA ligase, <u>Nucleic Acids Research</u> 10(6):1877-1895 (1982).
BV	Hofstetter <i>et al.</i> , Specific Excision of the Inserted DNA Segment from Hybrid Plasmids Constructed by the Poly(dA) · Poly(dT) Method, <u>Biochimica et Biophysica Acta</u> 454:587-591 (1976).
BW	Holland <i>et al.</i> , Detection of specific polymerase chain reaction product by utilizing the 5'→ 3' exonuclease activity of <i>Thermus aquaticus</i> DNA polymerase, <u>Proc. Natl. Acad. Sci. USA</u> 88:7276-7280 (1991).
BX	Jablonski <i>et al.</i> , Preparation of oligodeoxynucleotide-alkaline phosphatase conjugates and their use as hybridization probes, <u>Nucleic Acids Research</u> 14(15):6115-6128 (1986).
BY	Kafatos <i>et al.</i> , Determination of nucleic acid sequence homologies and relative concentrations by a dot hybridization procedure, <u>Cellular and Developmental Biology</u> pp. 1541-1552 (1979).
BZ	Kostrikis <i>et al.</i> , Spectral Genotyping of Human Alleles, <u>Science</u> 279(5354):1-8 (1995).
CA	Lizardi <i>et al.</i> , Mutation detection and single-molecule counting using isothermal rolling-circle amplification, <u>Nature Genetics</u> 19:225-232 (1998).
CB	Lockey <i>et al.</i> , Real-Time Fluorescence Detection of a Single DNA Molecule, <u>BioTechniques</u> 24(5):744-746 (1998).

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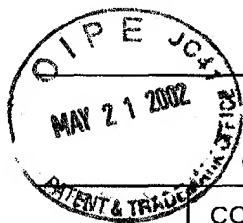
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CC	Maniatis <i>et al.</i> , Molecular Cloning, <u>Cold Spring Harbor Laboratory</u> pp. 1-11 (1982).
CD	Matteucci <i>et al.</i> , Synthesis of Deoxyoligonucleotides on a Polymer Support, <u>J. Am. Chem. Soc.</u> 103:3185-3191 (1981).
CE	Meinkoth <i>et al.</i> , Hybridization of Nucleic Acids Immobilized on Solid Supports, <u>Analytical Biochemistry</u> 138:267-284 (1984).
CF	Piétu <i>et al.</i> , Novel Gene Transcripts Preferentially Expressed in Human Muscles Revealed by Quantitative Hybridization of a High Density cDNA Array, <u>Genome Research</u> 6:492-503 (1996).
CG	Sambrook <i>et al.</i> , Construction and Analysis of cDNA Libraries, <u>Molecular Cloning, A Laboratory Manual</u> Chapter 8 (1982).
CH	Schena <i>et al.</i> , Quantitative Monitoring of Gene Expression Patterns with a Complementary DNA Microarray, <u>Science</u> 270:467-470 (1995).
CI	Shalon <i>et al.</i> , A DNA Microarray System for Analyzing Complex DNA Samples Using Two-color Fluorescent Probe Hybridization, <u>Genome Research</u> 6:639-645 (1996).
CJ	Sosnowski <i>et al.</i> , Rapid determination of single base mismatch mutations in DNA hybrids by direct electric field control, <u>Proc. Natl. Acad. Sci. USA</u> 94:1119-1123 (1997).
CK	Tullis <i>et al.</i> , Specific Detection of Human and Rabbit Glucagon mRNA Using a Synthetic Oligodeoxynucleotide, <u>Biochemical and Biophysical Research Communications</u> 93(3):941-947 (1980).
CL	Vincent <i>et al.</i> , Synthesis of 8-(2-4 dinitrophenyl 2-6 aminohexyl) amino-adenosine 5' triphosphate: biological properties and potential uses, <u>Nucleic Acids Research</u> 10(21):6787-6797 (1982).
CM	Wetmur <i>et al.</i> , Kinetics of Renaturation of DNA, <u>J. Mol. Biol.</u> 31:349-370 (1968).
CN	Wieder <i>et al.</i> , One Hundred-Fold Acceleration of DNA Renaturation Rates in Solution, <u>Biopolymers</u> 20:1537-1547 (1981).

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